

## NO MORE GUESSING WHAT THE "SYSTEM" WANTS. YOUR IGM-SC RESPONDS INSTANTLY.

For today's broadcast operations, fully or partially unattended, live assist or a combination of live and unattended operation, the IGM - SC provides the broadcaster with the information necessary to make decisions.

Menu-driven displays, on-screen "help" routines and simple broadcast language commands combine to make the IGM - SC versatile enough for the small and medium stations, yet sophisticated enough for the major broadcaster. The system software is an advanced, structured, high-level systems programming language operating in the host PC.

```

=====
--PROGRAM--
09:00:25A
--NEXT EVENT 0002--
EVENT SOURCE TRAY DESCRIPTION/ACTION
0001 07 12 Commercial
0002 05 23 Commercial
0003 06 09 Commercial
0004 -- -- MUSIC
Edit 0005 -- -- BACK AT 09:15:00A
0006 07 10 Commercial
0007 05 11 Commercial
0008 06 01 Commercial
0009 -- -- MUSIC
0010 -- -- BACK AT 09:30:00A

-----
COMMANDS
CTRLX - Exit the edit mode
CTRLC - Change displayed event
CTRLA - DISK LOAD AT
CTRLB - BACK AT
CTRLJ - JUMP TO EVENT
CTRLF - FORMAT
CTRLG - GO TO FORMAT AT EVENT
CTRLN - DO NEXT EVENT AT
CTRLW - HOLD FOR
CTRLD - Delete displayed data
CTRLQ - SYSTEM ON AT
CTRLP - PLAY THEN STOP
CTRLR - MUSIC ROTATION
CTRLS - STOP READY AT
CTRLT - RETURN
CTRLU - UPDATE TO NEXT EVENT AT
CTRLV - LINK TO NEXT EVENT
CTRLY - DEAD ROLL AT
=====

```

Events requested from memory for review or programming

Command Key Status Line, indicates active function keys for the routine displayed.

Typical of the many menu displays contained in the IGM-SC is the display of the File Write routine.

```

=====
--FILE WRITE--
10:00:00A
--NEXT EVENT 0002--

Ready disk drive then
Press:
CTRLD to WRITE event file to disk
ESC to return to MENU display
=====

```

# SPECIFICATIONS

## IGM-SC SYSTEM HARDWARE

### IGM-SC Audio Switcher

Audio Switcher Output:  
Program Amplifiers Left, Right and Sum

**Load Impedance:** 600 ohm, transformerless, balanced

**Source Impedance:** 95 ohms.

**Nominal Output Level:** +8dB, Adjustable -1dB to +9dB.

**Headroom:** Greater than 20dB above +8dB.

**Frequency Response:** 20Hz to 20KHz 0dB to -1.5dB  
600 ohm, balanced load

**Noise:** -70dB below +8dB output, 600 ohm load, 20kHz bandwidth with one source on, input level 0dB, input grounded.

**Harmonic Distortion:** Less than .015% at 1kHz, 10dB input level, +18dB output into 600 ohm balanced load.  
Less than .3% at 200Hz to 20k Hz, with +20dB input level, output 600 ohm, balanced load.

**Crosstalk** -65dB below +8dB output into 600 ohm load, Left to Right, Right to Left, Data to Left, Data to Right with 0dB input level at 1kHz.

Monitor Amplifiers Output Left and Right:

**Output Impedance:** 600 ohm

**Load Impedance:** 5K ohm.

**Output Level:** Fixed at 0dB, +20dB maximum before clipping.

Audio Source Inputs Left, Right Audio and FSK Data:

**Source Impedance:** 600 ohm.

**Input Impedance:** 10k ohm, Balanced and floating.

**Input Level:** Adjustable, -5dB to +5dB, 0dB nominal input level for reference.

External Audio Input (for monitor only):

**Source Impedance:** 600 ohm

**Input Impedance:** 10K ohm, Balanced and floating

**Input Level:** Adjustable, -5dB to +dB, 0dB nominal input level for reference.

### Host PC Package

- 1) PC, 256K (MS or PC - DOS) with keyboard
- 1) Monochrome CRT
- 1) Monochrome display and parallel printer adaptor
- 1) 360K, 5 1/4" floppy disk drive
- 2) RS232C asynchronous communications adaptors

### TeleVideo PT Terminal

Screen: 9" diagonal, non-glare yellow-green phosphor  
Display Format: 24 lines by 80 columns.  
Keyboard: Low-profile, typewriter style with 2-key rollover and 3-key lockout

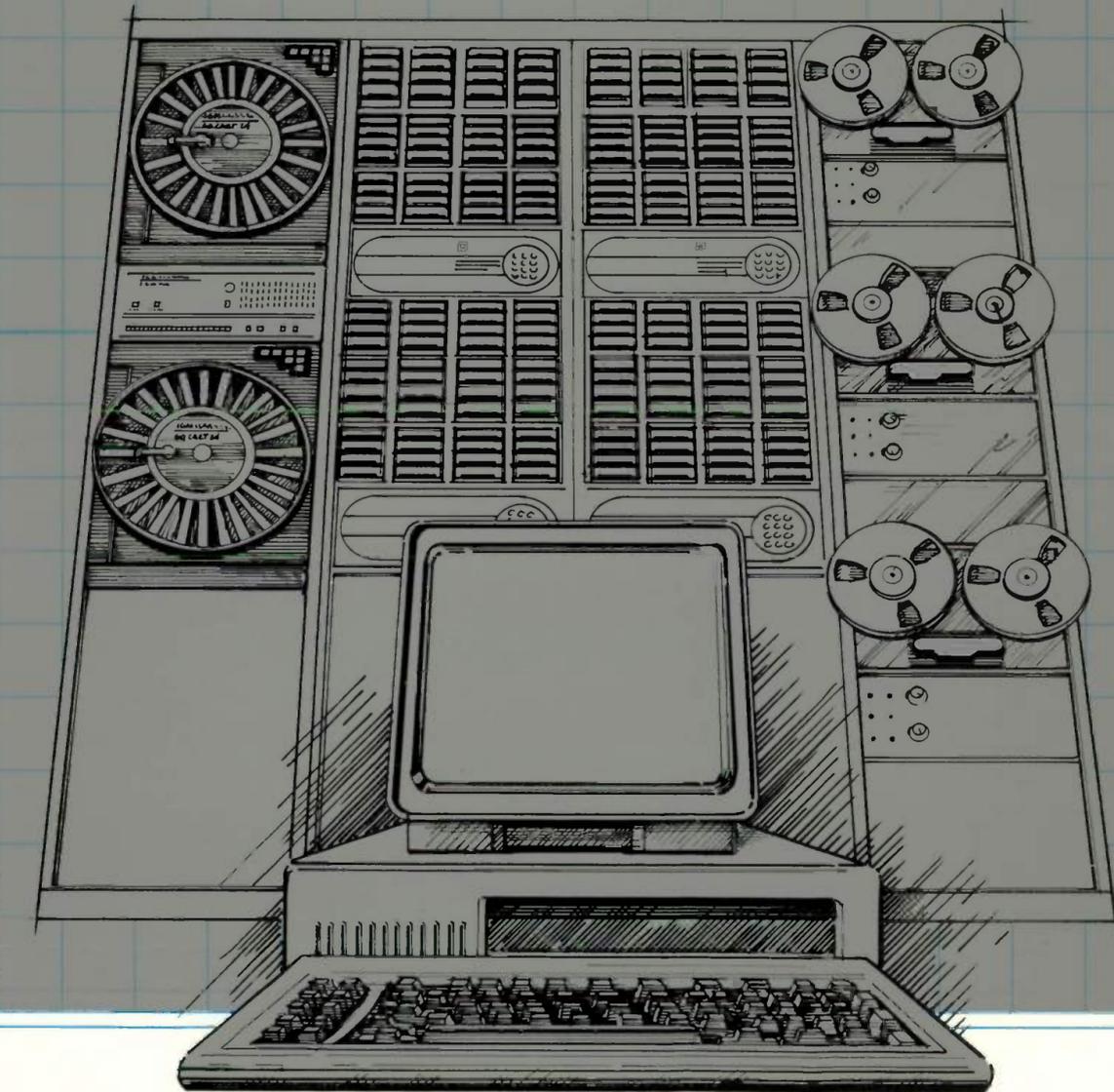
# IGM COMMUNICATIONS

282 West Kellogg Road, Bellingham, WA 98226 - U.S.A. (206) 733-4567 — Telex 704983  
Features and Specifications are subject to change without notice.

TeleVideo PT is a trademark of TeleVideo Systems Corporation.  
World Radio History

# IGM-SC

## The Sophisticated Controller



## YOU WILL APPRECIATE THE IGM-SC DIFFERENCE.

IGM-SC, the most versatile System Controller ever developed, is unmatched in its ability to provide system information to its operators. All control and programming of the system is accomplished in simple broadcast language commands with special command keys at each terminal, menu-driven displays and on-screen "help" routines.

Next Events to be placed "On-Air".

--SYSTEM ON LINE--		--ON AIR-- 07:59:00A		--NEXT ROTATION EVENT 2400--	
LAST	EVENT	SOURCE	TRAY	DESCRIPTION	ACTION
ON-AIR	0199	03	003	Hits #3	
NEXT	0200	04	003	Hits #4	
	0201	01	003	Hits #1	
	0202	02	003	Hits #2	
	0203	03	003	Hits #3	
	0204			UPDATE TO NEXT EVENT AT 07:59:45A	
	0205	08	003	Station ID	
	0206	06	11	Commercial	
	0207	05	19	Commercial	
	0208	01	003	Hits #1	
	0209	02	003	Hits #2	
	0210	03	003	Hits #3	

COMMANDS			
CTRL/B - Manual return from menu	CTRL/D - Delete next event	CTRL/O - Switch to next event	CTRL/S - System to Stop-Ready
CTRL/M - Go to menu display	CTRL/P - Go to program display	CTRL/U - Update RS devices	CTRL/N - Make 2501 next event

These displays are typical of the IGM-SC while in full or partially unattended control, and are available at both the Host PC and the optional remote TeleVideo PT terminal.

--SYSTEM IN STOP--		--SOURCE DESCRIPTION TABLE-- 10:15:00A		--NEXT EVENT 0001--	
Source	Max. Tray	Unit-Type	Description		
01	00	Reel to Reel	Current Hits #1		
02	00	Reel to Reel	Old Hits #2		
03	00	Reel to Reel	Old Hits #3		
04	00	Reel to Reel	Gold Hits #4		
05	48	Instacart	Commercial		
06	48	Instacart	Commercial		
07	24	GoCart	PSA		
08	00	Studio	Announce Booth #1		
09	00	Network	ABC News		
10	12	Relay	Relay Control		
11	00				
12	00				
13	00				
14	00				
15	00				
16	00				

UNIT TYPES			
CTL/R-Reel	CTL/C-Cart	CTL/I-Instacart	CTL/X-C/D
CTL/V-Extra	CTL/N-Net	CTL/E-Cassette	CTL/S-Studio
		CTL/T-Relay	CTL/G-Go Cart

## F E A T U R E S

### SILENCE SENSOR AND SYSTEM ALARMS

A silence sensor, monitoring both the Left and Right program amplifier outputs, is provided with provision for the system operator of the Host PC or at the optional TeleVideo PT terminal to set the audio dropout delay from 2 to 20 seconds.

### SOURCE

Sixteen monitor/indicator switches are provided to select a source card audio input to be placed on the CUE audio bus. These switches have two LEDs to indicate the source is "ON" or "CUE".

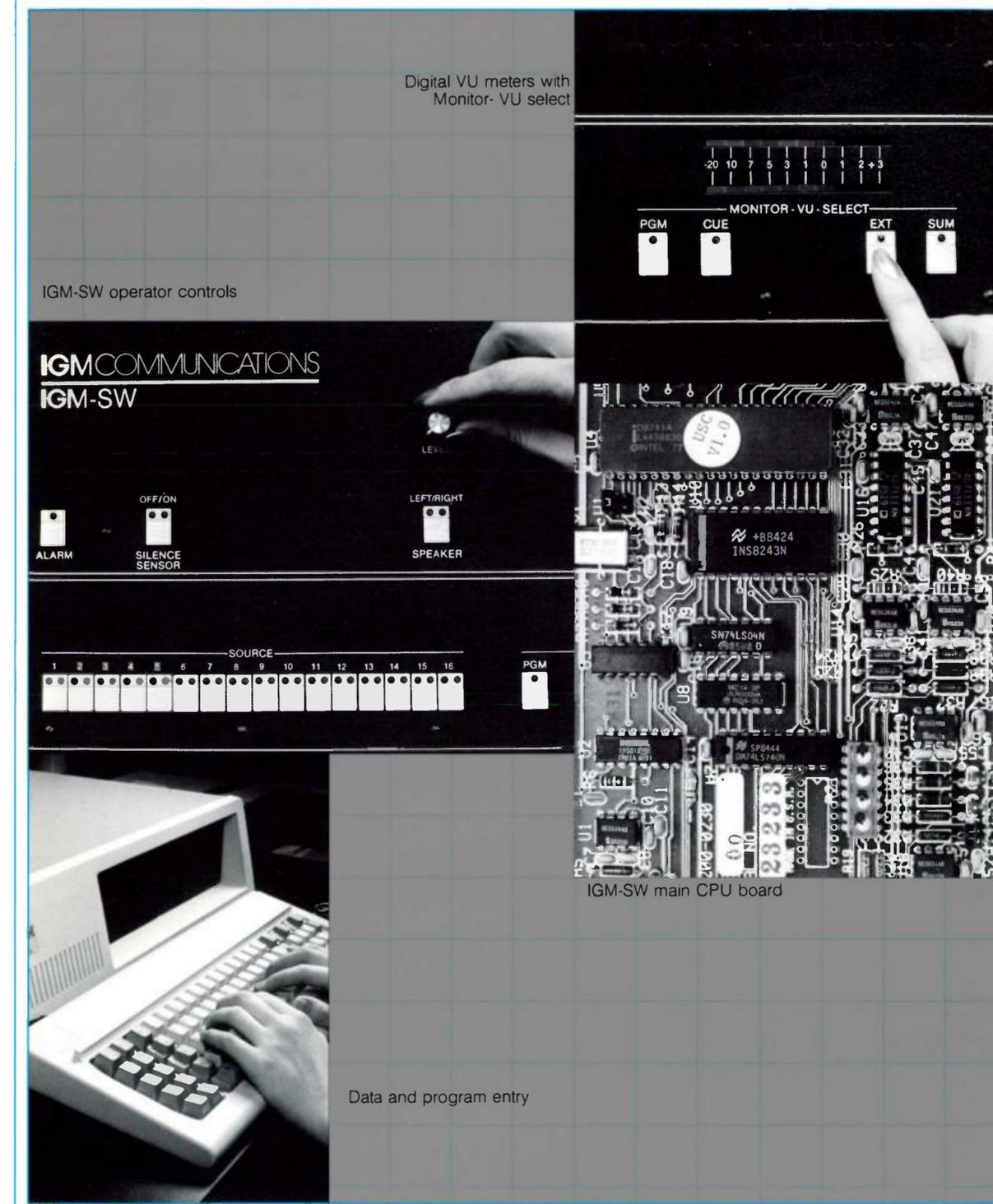
THE IGM-Audio Switcher, complete in only 8 3/4" of rack space, operates under control of the host PC with solid state audio switching, the latest in microprocessors control and command features, with extremely high reliability. The audio switcher chassis contains the program and monitor amplifiers, digital VU meters, monitor speaker, RS422 interface for instacarts and Go-Carts, silence sensor, external audio inputs, provisions for up to 16 audio source cards, any of which can be random access. The audio switcher also contains its own microprocessor and memory along with assembly language software developed by IGM for its operation.



- Partial or fully unattended control and switching
- 2500 event memory
- Simple Broadcast language Programming
- Menu-driven Displays
- On-screen "help" routines
- Jump instructions
- Real-time Commands
- Insert function — "NEXT" — allows special event to be placed "On Air"
- Floppy disk — memory backup
- Universal Source Cards with LED indicators/diagnostics
- Random access — Instacarts and Go-Carts
- Left, Right and Sum program and monitor amplifiers
- Digital meters (VU or Peak)
- Monitor Speaker
- Programmable Silence Sensor
- Full system control-Start, Stop, Fade and Switch to next event

### MONITOR VU SELECT

Four indicator and control switches, PROGRAM, CUE, EXTERNAL and SUM are located on the front of the audio switcher. Specific inputs may be selected to be displayed on the VU meters, switched to the monitor amplifier input and to the monitor speaker.



IGM-SW operator controls

IGM COMMUNICATIONS  
IGM-SW

IGM-SW main CPU board

Data and program entry

## Main and Audio P.C. Boards

## Capstan Shaft

## Heads and Tray Assembly

In Instacart the playback heads and drive assemblies remain stationary. When a cartridge is called to play, the solenoid is energized and pulls the cartridge in by 1/16 of an inch to contact the capstan drive shaft. This 1/16 inch movement is the only mechanical motion encountered in the Instacart, exclusive of the capstan and motor.

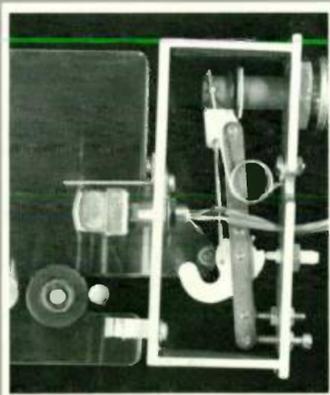
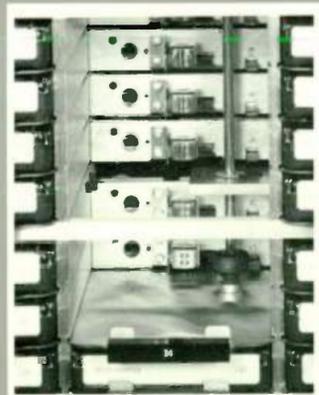
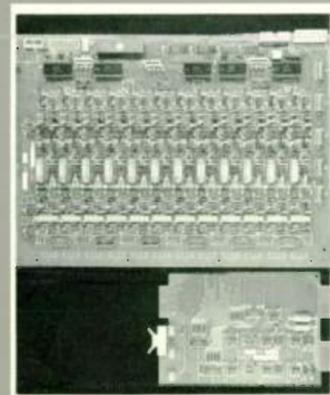
The direct tape drive system consists of high quality, high torque motors especially designed for continuous duty (in some stations, the Instacart is turned on during system installation and not turned off again for literally years . . .).

Each motor drives a precision capstan shaft for each stack of 12 cartridges. Each capstan drive shaft is fully supported by three precision fixed position sealed bearings and two motor bearings.

Each precision head assembly with its solenoid/linkage is removable for service and parts replacement or adjustment.

Instacart's audio characteristics are better because there is virtually no movement of the cartridge or carrier after insertion. The cartridge lies on a perfectly rigid carrier made of stainless steel that slides forward smoothly, allowing the pinch roller to contact the capstan drive shaft and causing the tape to play.

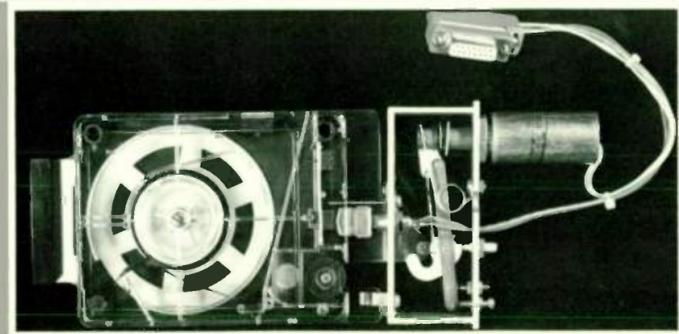
When the message or music selection is completed, the carrier returns to its "at rest" position 1/16 inch from the drive shaft. Because the mechanism moves only 1/16 inch, the cartridge tape, tray and head always maintain precise alignment relationships. It is this degree of tolerance that allows radio stations to use Instacart so effectively for stereo music, the most demanding of cartridge tasks.



audio bus at the end of its 150 Hz tone or at the 1 KHz tone, whichever arrives first.

Solenoids are switched on at full voltage and then held on at a lower voltage to eliminate heat buildup.

The new program and data track amplifier board features 600 ohm balanced, transformerless audio outputs, 10K ohm unbalanced data output along with the main audio and data level controls. NE5534 IC's are used exclusively for all audio in the new Instacart.



# INSTACART

## Lowest Maintenance Multiple Cartridge Playback Unit On The Market Today

Instacart was designed with the station engineer in mind. Accessibility to the unit is simple and direct for inspection, cleaning, routine adjustment and functional tests.

A plug-in connection mates each removable precision head to its associated electronics.

As in all IGM products, components throughout are the highest grade available. Circuitry is fully solid state. Components are mounted on Mil Spec fiberglass printed circuit cards.

Because of the unique cartridge/tray combination, individual playback heads can be contacted only by playback tape. It is physically impossible for any part of

the cartridge or tray assembly to touch the playback head in an Instacart. Therefore, alignment and adjustment of head assemblies, once set at the factory, are now a thing of the past.

Virtually the only maintenance required by Instacart is routine head, capstan shaft and pinch roller cleaning.

Easy to understand electronic circuitry, proven, simple, reliable mechanics combine to make Instacart the lowest maintenance multiple playback unit on the market today.

The IGM Instacart has found wide acceptance in both broadcast and industrial fields. This ingenious device has established an impeccable record of reliability and performance in highly demanding, continuous-duty applications.

Instacarts opened up a new dimension

## Instacart Specifications

Wow and Flutter:	Less than .15% weighted peak
Timing Accuracy:	.1% or better
Start Time:	Less than 100 mSec
Stop Time:	Less than 40 mSec
Tape Speed:	7.5 ips. One direct drive hysteresis motor for each bank of 12 cartridges.
Output Impedance:	
Load:	600 ohm balanced or unbalanced.
Source:	150 ohm balanced, 75 ohm unbalanced.
Output Level:	0 dBm nominal
Maximum Output Level:	+25 dBm balanced, +9 dBm unbalanced.
Amplified Distortion:	Less than .5% THD
Signal to Noise, Stereo:	-50 dB unweighted
Signal to Noise, Mono:	-53 dB unweighted
Cross Talk Between Channels:	45 dB or better
Equalization:	NAB standard (others available on special order)
Frequency Response:	Amplifier ± .5 dB NAB curve
Cue Signals:	1 KHz primary, 150 Hz secondary
Data Output:	.5 Volt into 10K ohm load
External Connectors:	XLR Type - audio and data
Power Requirements:	120 VAC 60 Hz 110 watts (240 VAC, 50 Hz on special order)
Weight:	160 lbs
Dimensions:	Height 21" Width 19" Depth 19 3/4"
Mounting:	Requires 25" deep rack with center mounting rails.
Models:	12, 24, 36, or 48 cartridge playback, mono or stereo

Specifications and options subject to change without notice

# 12•24•36•48

in programming and sound production for all broadcast modes, whether live, manual assist or fully automated. The significance of the instant access capability to radio or TV production and on air programming allows operators and sound production personnel to be completely freed from concern about the location of a particular "carted" feature, PSA, commercial, sound effect, music selection, or news insert. They simply command any cartridge to follow any other cartridge from the same machine - instantaneously.

It's easy to see why the Instacart has indeed become, and still is, the standard of the industry.

## Custom Configurations

Instacart is available in many custom configurations for special applications in TV, motion picture and radio post production, sound sweetening and sound effects, in configurations for non-broadcast applications, including an FCC approved system for telephone inter-connect. We invite interested persons to request our separate brochure on the Instacart for post production and information systems. Requests for custom applications and special configurations are also invited.

## Options

RS422 serial interface

Parallel interface (duplicates older Instacart)

Multiple audio outputs - left or left and right from each bank of 12 carts

IBA (United Kingdom) audio specifications

Standard NAB specifications with improved frequency response

50 Hz 120/240 VAC operation

Maxtrax™ wide track heads

Maxtrax™ heads and matrix audio switching

Light or heavy spare parts kits

Service and alignment kit

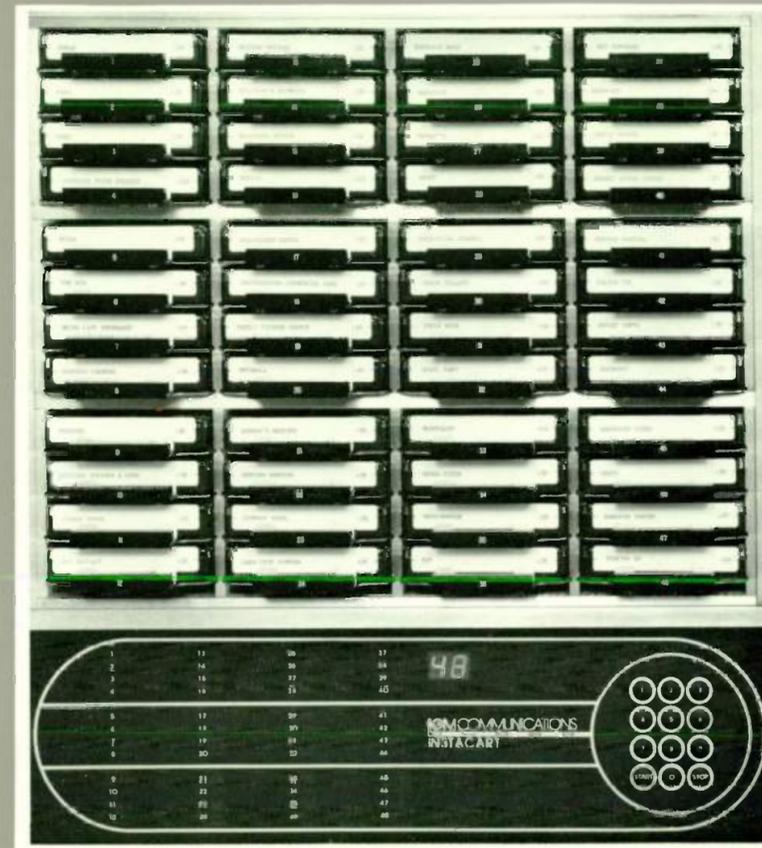
Maxtrax is a trademark of Pacific Recorders & Engineering Corporation.

# INSTACART

## Updated and Improved, but Still the Standard of the Industry for Instant Access

The serial number reads '003.' Its the first production Instacart. After 14 years of almost continuous operation, it is still performing flawlessly - day in, day out - at KGMI, Bellingham, Washington. Since we introduced 003 back in 1969, more than 2130 Instacarts have followed it into the field world-wide.

It was hard to improve on the record established by Instacart, but it has been accomplished with a complete updating of the packaging, electronics (both audio and control), the power supplies and the addition of many new features and capabilities to meet the demands of today's sophisticated radio and TV production and broadcast facilities.



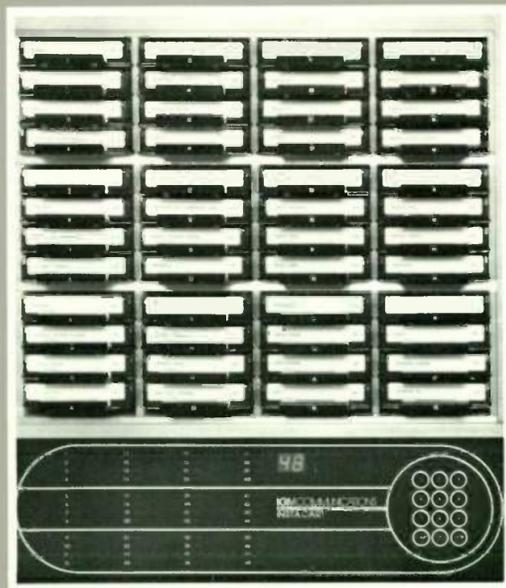
• 12, 24, 36 or 48 cartridge capacity • Mono or stereo • NAB or IBA (United Kingdom) specifications • Maxtrax™ (wide track) heads (option) • Microprocessor controlled • Front panel opens for service • Touch pad switches for manual operation • LED power supply status indicators • New modular power supplies • LED tray number readouts for manual control • 48 LED's indicate tray status • New pre-amps, data and program amplifiers using NE5534 IC's • Audio muting at end of 150 Hz tone for each cartridge • Individual level and equalization controls for each pre-amp • One shaft and capstan motor for each bank of 12 trays • Capstan shaft fully supported by three sealed precision bearings and two motor bearings. • RS422 serial computer interface or parallel interface to duplicate older Instacarts • XLR audio connectors.

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**IGM COMMUNICATIONS**

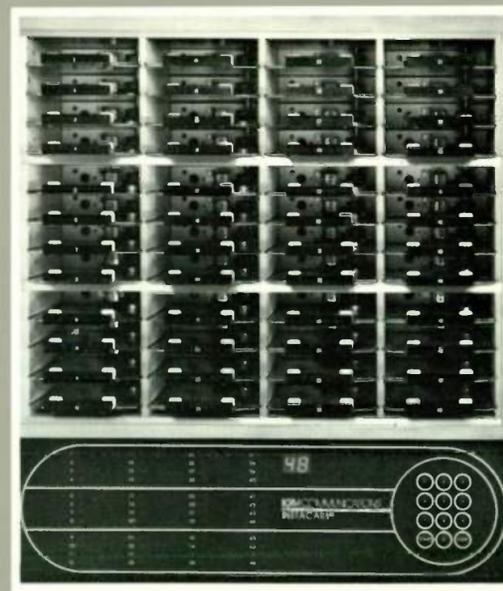
## New, updated features and options

- 12, 24, 36 or 48 cartridge capacity, mono or stereo
- New microprocessor controlled front panel
- Individual microprocessor control for each bank of 12 cartridges
- New audio pre-amps, data and program amplifiers, all with NE5534 IC's
- New improved 150 Hz and 1 KHz sensors
- Audio mute at the end of the 150 Hz tone - each tray
- Pre-amp equalization and level controls - each tray
- Meets NAB or IBA (United Kingdom) specifications



## The Mainframe

Instacart's instant access capability is made possible because each play position has its own playback head, solenoid for actuation, tray assembly, pre-amp, 150 Hz tone detector, and 1 KHz stop detector.



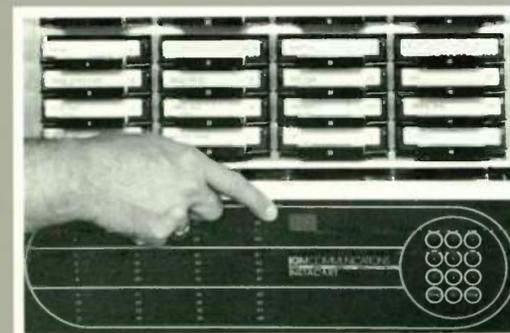
## The Front Panel

The front panel (mounted below the mainframe) contains the main control and interface microprocessor, a 12-key touch pad, with a 2-digit LED readout for manual operation. Forty-eight LED's indicate the status of each tray assembly, and are lighted as long as a tray assembly is engaged or a cartridge is running. Five LED's also indicate the status of the power supply. The front panel opens for service and access to the system microprocessor.

Full manual control of each tray is available to the operator -- individual trays may be started or stopped. In addition, special codes may be entered to stop all trays running, or all audio may be muted, allowing the cartridges to continue playing to recue.

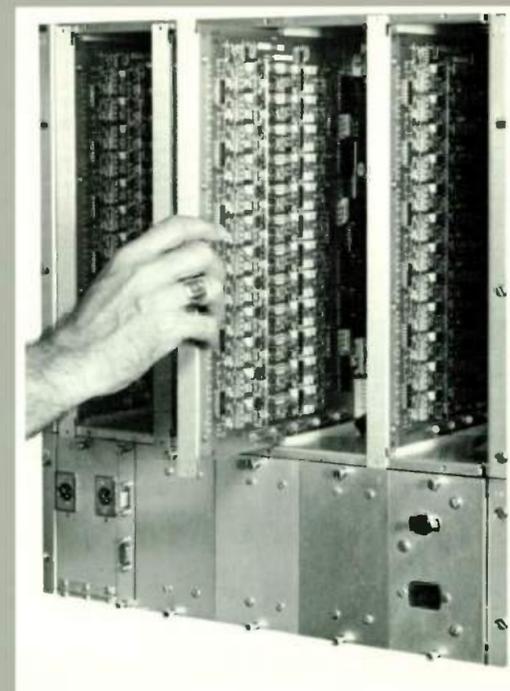
The direct tape drive system consists of high quality, high torque motors designed for continuous duty operation.

Each stack of 12 cartridges has its own motor driving a precision capstan shaft. Each capstan drive shaft is fully supported by three fixed position sealed bearings and two motor bearings. The mainframe itself, which contains the head and tray assemblies, motors, capstan



## Electronic Chassis and Main Audio Boards

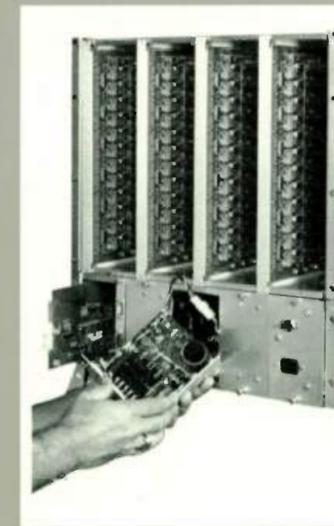
The new electronics chassis, which contains and supports up to four main audio/control boards (one per 12 trays), rack mounts directly behind the mainframe. This chassis contains the control and power cable assemblies for each of the new boards. Each PC board is fully supported top and bottom, and is removable, using optional extending bars and extension cables to allow maintenance and service access.



## Power Supply

The power supply chassis rack mounts directly below the electronics chassis and contains the audio and data program amplifiers, the RS422 or parallel interface connectors and XRL audio output connectors. The chassis also contains the +5 VDC, ± 15 VDC, ± 12 VDC supplies and AC supply for the system.

The power supplies are individual modules removable for service or maintenance. The +5, +15, -15 VDC supplies are also over voltage and over current protected.



## Audio Specifications and Features

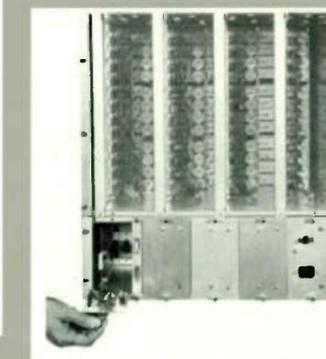
The updated Instacart audio circuits include for each tray individual pre-amps using the NE5534 IC. Each pre-amp has potentiometers for audio level, and equalization (left and right). All audio switching is handled by solid state FET switches.

Each tray has its own 1 KHz stop detector and 150 Hz aux tone detector, along with a data track pre-amp also using the NE5534 IC.

Audio muting for each tray takes place at the end of a 150 Hz aux tone or at the 1 KHz stop tone, whichever comes first.

Each bank of 12 pre-amps is under direct control of its individual microprocessor (8048), which in turn is under control of the main processor (8049) located on the front panel.

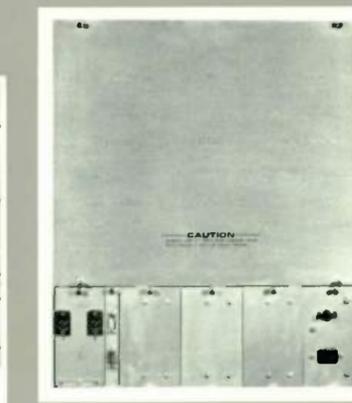
Program amplifiers and output data amplifiers also use NE5534 IC's. Audio outputs are 600 ohm balanced, transformerless. Data output is 10K ohm unbalanced. The standard Instacart audio output is one left and right along with data for all carts. Special output configurations are available, such as separate audio outputs for each bank of 12 trays. Various custom configurations of multiple audio outputs are also



## Remote Control

Instacart is available with an RS422 serial interface allowing full random access control and monitoring of all functions from any computer system via a simple 4-wire line. Software protocol and interface requirements are available on request.

Instacart is also available with an interface that will duplicate the older Instacart using the same remote control connectors for random access, and allows the Instacart to be used on existing systems with no change in cables or interface requirements. This interface also allows sequential operation of the Instacart. Details on this interface are also available on request.



- Available with Maxtrax™ (wide track) heads
- New individual, modular power supplies
- 60 or 50 Hz, 120 or 240 VAC operation
- RS422 serial interface for computer control
- Parallel interface - duplicates older Instacart
- Optional multiple audio outputs from each bank of 12 cartridges
- New head connectors
- Improved access and modular construction for maintenance and service

Each patented linkage assembly, head and solenoid, which are accessible for service or replacement, remain stationary in the mainframe. When a cartridge is started, the solenoid is engaged and pulls the cartridge in by 1/16 of an inch to contact the capstan drive shaft. This 1/16 inch movement is the only mechanical motion encountered in the Instacart, except that of the capstan and motor.



shaft and bearings, is made of 1/4" machined and precision aligned aluminum plate, and mounts in a standard 19" equipment rack.

Each main audio/control board contains twelve identical pre-amps, with individual audio level, and equalization controls, 1 KHz stop tone sensors, and 150 Hz aux tone detectors.

Solid state audio switches and microprocessor (8048) for each bank of 12 trays are also included on the main board.

available. XRL connectors are standard for audio and data output connections.

The Instacart is normally supplied meeting or exceeding the NAB (1975) audio specifications.

Other special specifications can also be supplied, such as 1) special playback heads with an improved frequency response of ± 1 dB, 2) Maxtrax™ wide track heads, 3) Maxtrax™ heads and matrix audio, 4) IBA (Independent Broadcast Authority) specifications (United Kingdom).

## Specifications

<b>Equalization</b>	NAB 1975 standard.
<b>Frequency Response:</b>	Meets or exceeds 1975 NAB standard.
<b>Amplifier Distortion:</b>	0.5% THD or less measured in accordance with 1975 NAB standard.
<b>Wow &amp; Flutter:</b>	0.15% or less DIN weighted
<b>Output Impedence:</b>	600 ohm balanced
<b>Output Level:</b>	+24dBm maximum before clipping.
<b>Tape Speed:</b>	7.5ips, direct drive hysteresis synchronous motor.
<b>Timing Accuracy:</b>	0.1% or better.
<b>Cue Signals:</b>	NAB primary 1kHz, NAB secondary 150Hz.
<b>Logging Data Signal:</b>	Data (Cue) track output level adjustable from -10 to +10db, 10k ohm, unbalanced.
<b>Mounting:</b>	Standard 19" rack mount. Swings open for service.
<b>Diagnostics:</b>	Standard, complete system diagnostics included for detailed fault location and system checks.
<b>Power:</b>	120VAC, 60Hz, 100 watts. Special Oder: 120VAC, 50Hz or 240VAC, 50Hz.
<b>Dimensions:</b>	19" wide, 19" high, 24" deep.
<b>Shipping Weight:</b>	100 lbs.

Note: Specifications subject to change without notice.

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GO CART

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# IGM GO - CART 24

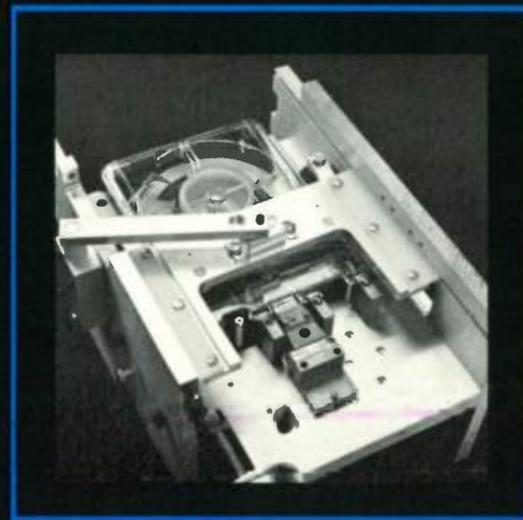
## BI-DIRECTIONAL SEARCH TIME LESS THAN 8 SECONDS

Bi-directional drive logic, unique to the Go-Cart, has reduced the travel time between cartridge selections to no more than 8 seconds. These unusually fast times are a result of the Go-Cart's microprocessor control which automatically determines the shortest route to the next required cartridge, and rotates the cartridge carrier in that direction.



## EXCEPTIONAL AUDIO QUALITY

A patented mechanism gently slides the cartridge onto a rigid play table constructed of 1/2" thick precision-milled aluminum plate. The cartridge is then released and left in contact with the reproduce head, totally supported from front to back thus matching single cart playback performance. This makes the Go-Cart ideal for both stereo and mono high demand applications.



## RUGGED CONSTRUCTION FOR LONGER LIFE

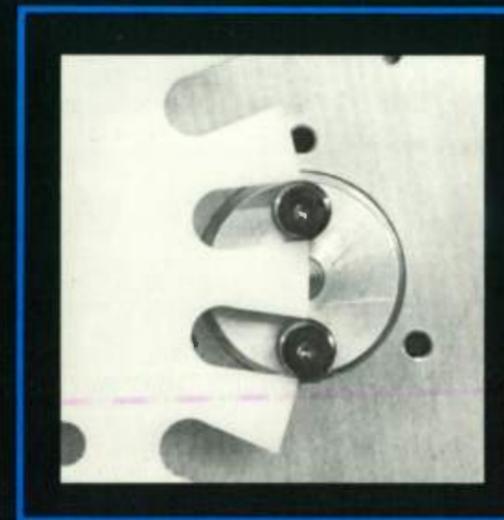
The power supply normally operates at about 1/3 of its rated capacity. Switches throughout are solid state Hall effect, zero bounce. Circuit components are mounted on Mil Spec fiberglass boards with gold plated contacts. The mechanical chassis is constructed from heavy weight precision milled aluminum and steel.

## EASY LOADING TRAYS

Carrier Trays are of one-piece, precision injection molded plastic known for its high impact resistance and long term stability.

## SELF-DIAGNOSING ERROR DETECTORS

Go-Cart's operational ease is further complemented by self-diagnosing error detectors—yet another unique feature of the IGM unit. In the event of a malfunction, Go-Cart's microprocessor logic actuates an "error" light on the front panel—a great assist to the operator.



## GENEVA DRIVE ASSEMBLY

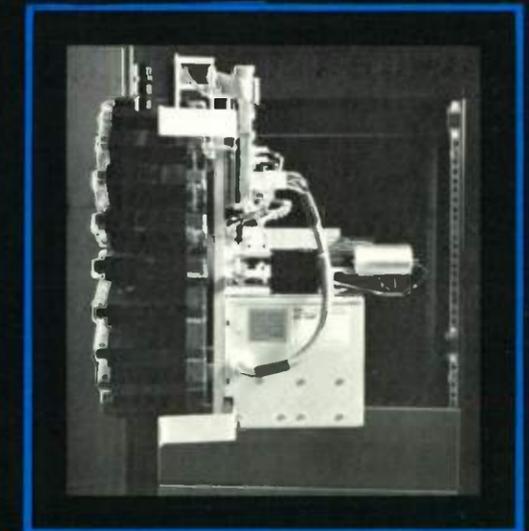
Cartridge trays are permanently attached to a revolving disk, which has gear-like teeth around its periphery. The drive design is totally different from others in the industry—a well proven method used in precision machines such as motion picture cameras.

This deceptively simple, rugged drive system using a two-pin mechanism known as a Geneva Drive, moves the carrier assembly clockwise or counter-clockwise by engaging the disk's teeth. The Go-Cart can't skip a tray; every cartridge is assured a positive position. Each time the Go-Cart moves, the mechanism latches and locks the tray in place.

## RANDOM OR SEQUENTIAL MODE

When used in the "random select" mode, the Go-Cart allows full random access control to all 24 trays. Upon command, the Go-Cart immediately rotates via the shortest route to select the required cartridge. The loading mechanism moves the cartridge onto the play table, and plays upon receiving a start command. When finished, the cartridge is unloaded, returned to its tray and the carrier is rotated to the next programmed tray number and the new cartridge is loaded.

When operated in the "sequential" mode, the Go-Cart quietly and efficiently loads the first cartridge onto the play table, and plays it upon command. When re-cued, the cartridge is unloaded and placed back in its tray and the Go-Cart rotates to the next cartridge. The new cartridge is then loaded and the unit awaits the next start command. If any tray position is left empty, the Go-Cart immediately advances to the next filled position.



## EASY MAINTENANCE

To service or perform routine maintenance on the Go-Cart, simply remove the mask and two screws. The entire unit swings out on hinges permitting easy access and observation. The Go-Cart operates normally while open for service.

● Bi-Directional Search

● Microprocessor Based Design

● Exceptional Audio Quality

● Rugged Construction

● Easy Loading Trays

● Self-Diagnosing Error Detectors

● Random or Sequential Modes

● Quiet Operation

● Integrated Hardware and Software

● Geneva Drive

● State-of-the-Art Components

● Easy Maintenance

# SPECIFICATIONS

**Source Audio Inputs (12):**  
10k bridging, unbalanced  
0dB nominal input level for reference.

**Audio Gain:**  
Unity.

**Output Channels:**  
Left, Right and Mono Program.  
Left, Right Monitor.

**Headroom:**  
Greater than 24dB above nominal input level of 0dB.

## Host PC Package

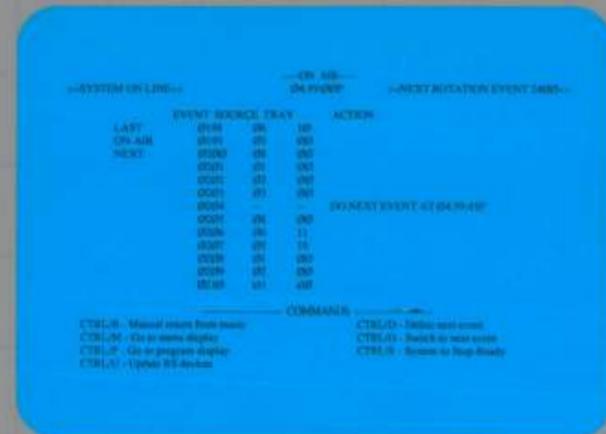
- 1) PC, 128K (MS or PC — DOS) with keyboard
- 1) Monochrome CRT
- 1) Monochrome display and parallel printer adaptor
- 1) 360K, 5¼" floppy disk drive with drive adaptor
- 2) RS232C asynchronous communications adaptors

**Frequency Response:**  
20Hz to 20kHz, 0dB to -1dB, 600 ohm balanced load.

**Noise:**  
-75 below 0dB output, 600 ohm balanced load, 20kHz bandwidth with one source on, input level 0dB, input grounded.

**Total Harmonic Distortion:**  
Less than 0.15% at 1kHz, 20dB input level, 600 ohm balanced load.

**Cross Talk**  
-65dB below 0dB output into 600 ohm load, Left to Right, Right to left with 0dB input level at 1kHz.

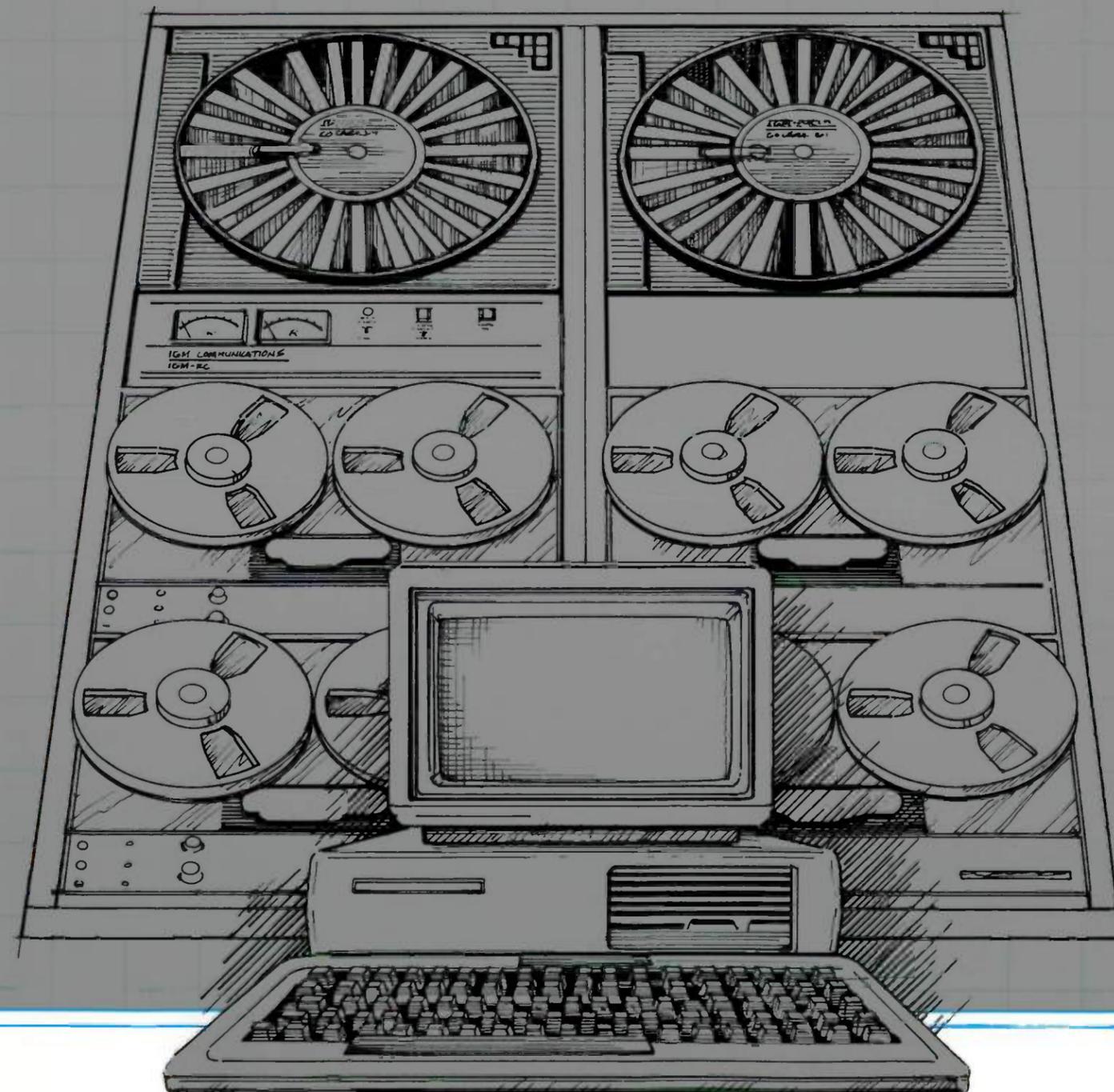


Simple broadcast language commands make the IGM - EC versatile enough for small and medium stations. The system software is an advanced, structured, high-level systems programming language operated by the host PC.

This display is typical of the IGM - EC while in full or partially unattended automatic control.

# IGM-EC

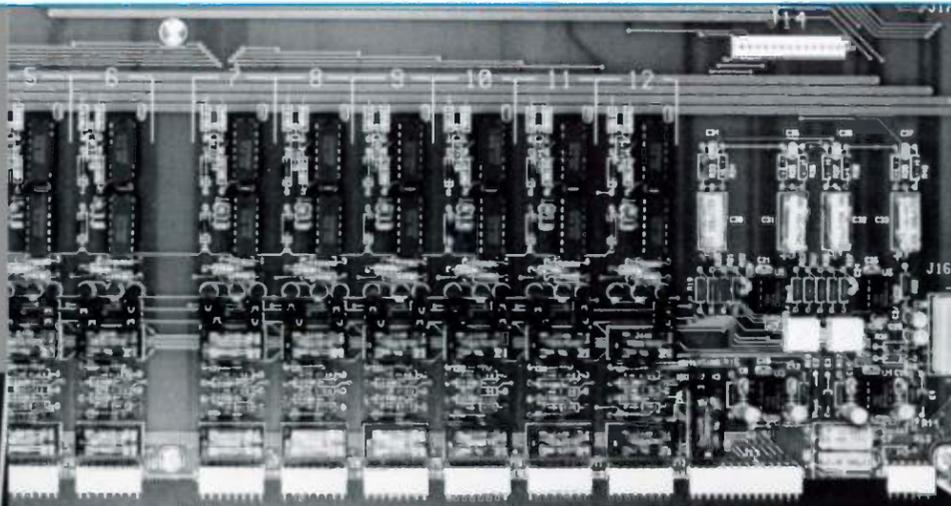
## The Economical Controller



# IGM COMMUNICATIONS

282 West Kellogg Road, Bellingham, WA 98226 - U.S.A. (206) 733-4567 — Telex 704983  
Features and Specifications are subject to change without notice.

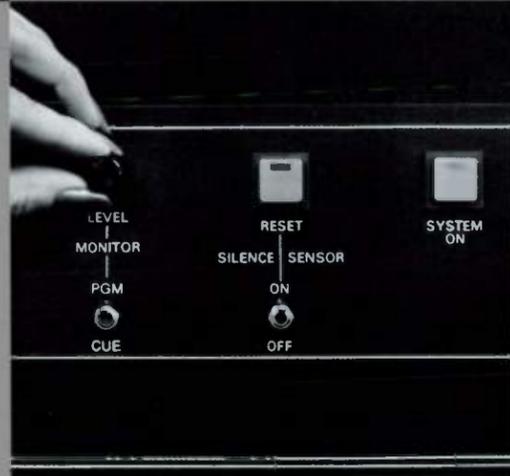
IGM Communications has always enjoyed a reputation for P.C. boards of the highest quality — and the EC Main Board is no exception. Computer-aided design ensures efficient layout and high reliability.



Operator interface with the host PC, for system control and programming is easily accomplished with simple commands.



IGM Go-Cart 24's are perfectly matched for control by the EC.



Simplicity of operation is typical of the EC with switching and monitoring elements placed in logical locations on the front panel. Reliability is built in to every system by IGM Communications.

# S Y S T E M S

# F E A T U R E S

The IGM-EC fits a 5 1/4" rack space and operates under the control of the selected host PC. Micro-processor control and command features are coupled with switching to provide trouble-free operation.

Left and right VU meters allow precise level setting and monitoring of the PGM (Program output) lines or source CUE bus. The silence sensor can be switched on or off, or reset under operator command. A *system on* indicator lights when the system is "On-Air".



**VU METER**  
Left and right audio (PGM or CUE) will be displayed on the VU meters.

**MONITOR SWITCH**  
A single switch controls whether PGM (Program output) or CUE audio will be supplied to the monitor amplifier and displayed on the VU meters.

**MONITOR LEVEL**  
Used to adjust the monitor amplifier outputs.

**SILENCE SENSOR**  
Silence sensor function is controlled by an ON/OFF switch, and a lighted alarm indicator is provided for operator reset.

- Economical
- Special music rotation file
- 12 audio sources
- 2500 events
- Use with Go-Cart 24's
- Random select
- Optional log printer
- Floppy disk memory backup during operation
- RS422 interface with selected host PC
- Produced by IGM Communications, a manufacturer with a longstanding record of performance.



4041 Home Road  
Bellingham, Washington 98225  
206 733 4567

## NO. 3190

The undersigned, hereinafter called the Buyer, hereby offers to purchase from IGM Communications, Inc., hereinafter called the Seller, the items described in Exhibit "A", as attached hereto, for a purchase price and upon such terms as hereinafter provided. Shipment to be made, subject to prior sale, within

30-45 \* days of receipt of Seller's acceptance of this proposal. This proposal shall be firm for 30 days from the date of this proposal. A firm shipping date will be supplied to Buyer upon Seller's acceptance of this proposal.

**\*SHIP DATE DETERMINED BY DATE OF PROPOSAL ACCEPTANCE**

Terms and Conditions agreed to are printed on reverse side, including EXCLUSION OF WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE.

Terms: A 5% discount will be applied if the full purchase price less the 5% discount is paid in advance at the time the order is received by IGM.

All orders must be accompanied by a 25% down payment, balance (75%) due before shipment.

Kindly execute this proposal in the space provided below. If accepted by IGM Communications, Inc., this document shall be the final contract of sale.

DATED: May 25, 1988

BUYER:

Barry Mishkind, CE KSXX  
NAME COMPANY  
3222 South Richey Avenue  
ADDRESS  
Tucson, AZ 85713  
CITY STATE ZIP

ACCEPTED: \_\_\_\_\_ DATE  
BY \_\_\_\_\_  
TITLE \_\_\_\_\_  
PHONE (602) 296-3797

PRESENTED BY:

Carl Peterson  
NAME  
282 West Kellogg Road  
ADDRESS  
Bellingham, WA 98226  
(206) 733-4567  
PHONE

ACCEPTED: \_\_\_\_\_ DATE  
BY: \_\_\_\_\_  
IGM Communications, Inc.  
Bellingham, Washington 98225

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### 2. TITLE AND USE

Seller hereby warrants to the Buyer that the Seller is the lawful owner of the personal property hereby sold and conveyed under paragraph 1 hereof and that Seller has good and unencumbered title to such property with the full right to sell and convey the same. However, the Seller makes no representations or warranties as to the effectiveness or performance of such equipment other than that as may hereinafter be provided.

### 3. PURCHASE PRICE

Prices are based upon the printed price list issued by IGM Communications, Inc., effective at the time of order acceptance. However, prices are valid only 60 days after order acceptance, unless non-delivery during that period is caused by IGM or the delayed delivery is previously agreed upon by IGM. IGM reserves the right to adjust the prices due to governmental legislation which is beyond IGM's control.

Leases: Lease plans are available through leasing companies and if desired by Buyer and if agreed to by Seller, will be made as a separate part of this agreement.

### 4. DELIVERY, TITLE AND RISK OF LOSS

All sales will be made FOB, Seller's place of business in Bellingham, Washington. The Buyer will pay all costs of shipment and any payment by the Seller of freight or other charges shall be for the account of the Buyer and shall not extend the obligation of the Seller with respect to delivery. Risk of loss or damage shall pass to the Buyer on delivery to the carrier at Seller's plant, notwithstanding any provisions for payment of freight or insurance by Seller, or the form of the shipping documents. If the Buyer has any particular mode or routing of shipping, he shall so notify the Seller of full details.

### 5. SECURITY INTEREST

Buyer hereby grants to Seller a security interest in the equipment purchased hereunder as security for the performance by the Buyer of all obligations hereunder. Buyer agrees to protect and maintain the collateral by all reasonable means and cannot sell any part of the collateral or the interest of the Buyer except with a prior written consent of the Seller.

### 6. TAXES

All increases in, and all new taxes, excises, or other governmental charges hereafter imposed on the production, sale or transportation of the materials sold hereunder which Seller may be required to pay, shall become part of the price payable by the Buyer. Unless separately stated, all prices will be quoted, all orders accepted and all billings rendered exclusive of all federal, state and municipal taxes of any kind. Seller will not report, collect or pay any tax which may be imposed on the Buyer and the Buyer shall report and pay all taxes so imposed and shall hold the Seller harmless therefrom.

### 7. FORCE MAJEURE

The Seller shall not be liable for delays in delivery or failure to manufacture due to causes beyond its reasonable control, such as acts of God, acts of the Buyer, acts of civil or military authority, fires, strikes, floods, epidemics, quarantine restrictions, war, riot, government regulations, commercial impracticability, delays in transportation, car shortages and inability to causes beyond its reasonable control to obtain necessary labor, materials or manufacturing facilities. In the event of any such delay, the date of delivery shall be extended for a period equal to the time lost by reason of the delay.

### 8. CONTROVERSIES

This contract shall be construed according to the laws of the State of Washington. Any lawsuits resulting from this contract shall be subject to the jurisdiction of the State of Washington and the parties specifically agree that the venue of any said action shall be in the Superior Court of Whatcom County, State of Washington.

### 9. WARRANTY

Seller warrants that every piece of equipment sold shall be free from defects in material and workmanship under normal use and service for a period of one (1) year after the dates of shipment to the Buyer. This warranty is limited, however, to the following: The repair, or, at the Seller's option, the replacement of any part of the equipment that upon examination is disclosed to the satisfaction of the Seller to have been defective at the time of delivery. The Seller will, without charge, either repair the defective part or replace it with a new or reconditioned part.

### 10. WARRANTY EXCLUSIONS

This warranty does not cover (A) items normally considered consumable, such as lamps, fuses, magnetic tape. Magnetic tape heads are warranted for a period of sixty (60) days from the date of shipment, (B) defects, damage or deterioration due to normal use, wear, tear or exposure, (C) normal maintenance services, (D) damage or defects due to misuse, abuse, alterations negligence, or accident, (E) damage or defects due to repair of the equipment by someone other than Seller, and (F) any part or components which was manufactured by someone other than Seller. Seller shall not be liable for any consequential damages, including down-time, to the Buyer while the equipment is out of commission, nor does this warranty cover removal and reinstallation expense. This warranty shall become void unless Seller is notified in writing of any alleged defect in the material or workmanship within seven (7) calendar days of the date upon which the defect was discovered, or should have been discovered. The Buyer is responsible for performance of regular maintenance service, and **THIS WARRANTY IS IN LIEU OF ALL OTHER IGM WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE. SELLER DOES NOT ASSUME OR AUTHORIZE ANY PERSON TO ASSUME ON ITS BEHALF, ANY OTHER OBLIGATION OR LIABILITY.**

### 11. SOFTWARE

If computer software is included as a part of the items being purchased, the Buyer recognizes the Seller's proprietary interest in same. The Buyer agrees it is receiving the software on a confidential basis for his sole use and the Buyer shall not disclose said software to others. Further, the software shall not be duplicated, sold, or revealed to others by the Buyer without the Seller's written approval.

### 12. CANCELLATION

Systems and component parts are built to order. IGM commitment to suppliers and production costs may require a cancellation charge of up to 15% in the event of cancellation by the Buyer prior to shipment.

### 13. PACKING

Unless a preferred packing method is specified herein, all of the equipment shall be packaged for shipment and storage in accordance with standard commercial practices for goods of the same type.

### 14. ATTORNEY FEES

If Court action is necessitated as a result of this agreement, the prevailing party shall have the right to collect reasonable attorney fees and costs incurred as a result of said court action.

### 15. ENTIRE AGREEMENT

The terms and conditions hereof constitute the entire contract between the parties. No modification, limitations, waiver or discharge of this contract or of any of its terms shall bind the Seller unless in writing and signed by the Seller's authorized representative. No modification, limitation, waiver or discharge of this contract shall effect the Buyer's liabilities to the Seller accrued prior thereto. Further, this agreement merges and supersedes all prior written and oral agreements and understandings between the parties.

Item	Quantity	Description	Unit Price	Price
1	1	26-0060-0250-02 IGM-EC System Includes: IGM-EC Audio Switcher, Complete 12 Audio Sources 12 Random Select Interface for Go-Cart 24's 2600 Event Memory VU Meters, Silence Sensor Program, Monitor and Sum Amplifiers EC Operating Software Operations and Technical Manuals RS422 Serial I/O for Computer (less computer, disk drive, monitor, and printer)	\$ 4,975.00	\$ 4,975.00
2	2	18-0042-0250-20 Go-Cart 24, Stereo Features: 24 tray, bi-directional drive, single play station, random access, or sequential operation	4,245.00	8,490.00
3	1	00-1409-6125-99 Model R-90 Rack, Black, rear door, AC strip, cable duct	575.00	575.00
4	1	00-1406-6125-94 Side Panels, Pair, for R-90 Racks	210.00	210.00
5	1	00-2000-0250-00 Uninterruptible Power Supply, bat	495.00	495.00
6	1	00-2750-0115-00 BCL-115 Islatron	240.00	240.00
TOTAL				\$14,985.00

282 West Kellogg Road  
 Bellingham, Washington 98226  
 (209) 733-4667

**ORIGINAL**  
 (Please Sign and Return to IGM Communications, Inc.)



# IGM COMMUNICATIONS

# PROPOSAL

4041 Home Road  
Bellingham, Washington 98225

206 733 4567

## NO. 3190

The undersigned, hereinafter called the Buyer, hereby offers to purchase from IGM Communications, Inc., hereinafter called the Seller, the items described in Exhibit "A", as attached hereto, for a purchase price and upon such terms as hereinafter provided. Shipment to be made, subject to prior sale, within 30-45 days of receipt of Seller's acceptance of this proposal. This proposal shall be firm for 30 days from the date of this proposal. A firm shipping date will be supplied to Buyer upon Seller's acceptance of this proposal.

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Kindly execute this proposal in the space provided below. If accepted by IGM Communications, Inc., this document shall be the final contract of sale.

DATED: May 25, 1988

BUYER:

NAME	<u>Barry Mishkind, CE</u>	<u>KSXX</u>	ACCEPTED:	_____	DATE	_____
		COMPANY				
ADDRESS	<u>3222 South Richey Avenue</u>		BY	_____		
CITY	<u>Tucson,</u>	<u>AZ</u>	TITLE	_____		
	STATE	ZIP				
		<u>85713</u>	PHONE	<u>(602) 296-3797</u>		

PRESENTED BY:

NAME	<u>Carl Peterson</u>	ACCEPTED:	_____	DATE	_____
ADDRESS	<u>282 West Kellogg Road</u>		BY:	_____	
	<u>Bellingham, WA</u>	<u>98226</u>	IGM Communications, Inc.		
PHONE	<u>(206) 733-4567</u>		Bellingham, Washington 98225		

## TERMS AND CONDITIONS

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6	1	00-2750-0115-00 BCL-115 Iselatron	240.00	240.00
TOTAL				\$14,985.00

CUSTOMER COPY  
(Retained by Customer)





# IGM COMMUNICATIONS

282 West Kellogg Road  
Bellingham, Washington 98226

206 733 4567

May 25, 1988

Barry Mishkind Chief Engineer  
KSXX  
3222 South Richey Avenue  
Tucson, AZ 85713

Dear Barry,

Thanks for the call. Always nice to hear from you. And it didn't cost you a dime. Forgot to turn on the clock. Ha!! Customers NEVER.

I have enclosed 2 proposals using stereo Go-Carts. For mono deduct \$200.00 per Go-Cart. Also enclosed is a disk with the operating system on it and a manual to explain all the good things it does. This system is being used very successfully in a number of stations with satellite programming.

The IGM-EC was designed to present the most cost-effective approach to program control for the broadcaster. The controller alone costs less than \$5,000. In order to meet our goals, we made deliberate decisions about what functions to include and what functions should be left for more expensive systems. We built a system that handles 12 audio sources (more than capable of handling a typical operation). We built all the audio circuitry onto a single board to keep the manufacturing costs to a minimum. We included logging of event number, source and tray number as a standard feature, you only need to add a printer. We eliminated the individual cue channel controls, since they were seldom used by most stations.

And, best of all, we figured out that using an inexpensive business computer would be a better value than IGM re-inventing the computer. The IGM-EC will work with most MS-DOS computers.

Barry, I will give you a call in 2 weeks to answer any questions you may have. If you need information sooner give me a call 1(800) 458-1273. Thanks again for the call.

Regards,



Carl Peterson  
IGM Sales



4041 Home Road  
Bellingham, Washington 98225  
206 733 4567

## NO. 3191

The undersigned, hereinafter called the Buyer, hereby offers to purchase from IGM Communications, Inc., hereinafter called the Seller, the items described in Exhibit "A", as attached hereto, for a purchase price and upon such terms as hereinafter provided. Shipment to be made, subject to prior sale, within

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Barry Mishkind, CE KSXX  
NAME COMPANY  
3222 South Richey Avenue  
ADDRESS  
Tucson, AZ 85713  
CITY STATE ZIP

ACCEPTED: \_\_\_\_\_ DATE \_\_\_\_\_  
BY \_\_\_\_\_  
TITLE \_\_\_\_\_  
(602) 296-3797  
PHONE

PRESENTED BY:

Carl Peterson  
NAME  
282 W. Kellogg Road  
ADDRESS  
Bellingham, WA 98226  
(206) 733-4567  
PHONE

ACCEPTED: \_\_\_\_\_ DATE \_\_\_\_\_  
BY: \_\_\_\_\_  
IGM Communications, Inc.  
Bellingham, Washington 98225

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All sales will be made FOB, Seller's place of business in Bellingham, Washington. The Buyer will pay all costs of shipment and any payment by the Seller of freight or other charges shall be for the account of the Buyer and shall not extend the obligation of the Seller with respect to delivery. Risk of loss or damage shall pass to the Buyer on delivery to the carrier at Seller's plant, notwithstanding any provisions for payment of freight or insurance by Seller, or the form of the shipping documents. If the Buyer has any particular mode or routing of shipping, he shall so notify the Seller of full details.

### 5. SECURITY INTEREST

Buyer hereby grants to Seller a security interest in the equipment purchased hereunder as security for the performance by the Buyer of all obligations hereunder. Buyer agrees to protect and maintain the collateral by all reasonable means and cannot sell any part of the collateral or the interest of the Buyer except with a prior written consent of the Seller.

### 6. TAXES

All increases in, and all new taxes, excises, or other governmental charges hereafter imposed on the production, sale or transportation of the materials sold hereunder which Seller may be required to pay, shall become part of the price payable by the Buyer. Unless separately stated, all prices will be quoted, all orders accepted and all billings rendered exclusive of all federal, state and municipal taxes of any kind. Seller will not report, collect or pay any tax which may be imposed on the Buyer and the Buyer shall report and pay all taxes so imposed and shall hold the Seller harmless therefrom.

### 7. FORCE MAJEURE

The Seller shall not be liable for delays in delivery or failure to manufacture due to causes beyond its reasonable control, such as acts of God, acts of the Buyer, acts of civil or military authority, fires, floods, epidemics, quarantine restrictions, war, riot, government regulations, commercial impracticability, delays in transportation, car shortages and inability to causes beyond its reasonable control to obtain necessary labor, materials or manufacturing facilities. In the event of any such delay, the date of delivery shall be extended for a period equal to the time lost by reason of the delay.

### 8. CONTROVERSIES

This contract shall be construed according to the laws of the State of Washington. Any lawsuits resulting from this contract shall be subject to the jurisdiction of the State of Washington and the parties specifically agree that the venue of any said action shall be in the Superior Court of Whatcom County, State of Washington.

### 9. WARRANTY

Seller warrants that every piece of equipment sold shall be free from defects in material and workmanship under normal use and service for a period of one (1) year after the dates of shipment to the Buyer. This warranty is limited, however, to the following: The repair, or, at the Seller's option, the replacement of any part of the equipment that upon examination is disclosed to the satisfaction of the Seller to have been defective at the time of delivery. The Seller will, without charge, either repair the defective part or replace it with a new or reconditioned part.

### 10. WARRANTY EXCLUSIONS

This warranty does not cover (A) items normally considered consumable, such as lamps, fuses, magnetic tape. Magnetic tape heads are warranted for a period of sixty (60) days from the date of shipment, (B) defects, damage or deterioration due to normal use, wear, tear or exposure, (C) normal maintenance services, (D) damage or defects due to misuse, abuse, alterations' negligence, or accident, (E) damage or defects due to repair of the equipment by someone other than Seller, and (F) any part or components which was manufactured by someone other than Seller. Seller shall not be liable for any consequential damages, including down-time, to the Buyer while the equipment is out of commission, nor does this warranty cover removal and reinstallation expense. This warranty shall become void unless Seller is notified in writing of any alleged defect in the material or workmanship within seven (7) calendar days of the date upon which the defect was discovered, or should have been discovered. The Buyer is responsible for performance of regular maintenance service, and **THIS WARRANTY IS IN LIEU OF ALL OTHER IGM WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE. SELLER DOES NOT ASSUME OR AUTHORIZE ANY PERSON TO ASSUME ON ITS BEHALF, ANY OTHER OBLIGATION OR LIABILITY.**

### 11. SOFTWARE

If computer software is included as a part of the items being purchased, the Buyer recognizes the Seller's proprietary interest in same. The Buyer agrees it is receiving the software on a confidential basis for his sole use and the Buyer shall not disclose said software to others. Further, the software shall not be duplicated, sold, or revealed to others by the Buyer without the Seller's written approval.

### 12. CANCELLATION

Systems and component parts are built to order. IGM commitment to suppliers and production costs may require a cancellation charge of up to 15% in the event of cancellation by the Buyer prior to shipment.

### 13. PACKING

Unless a preferred packing method is specified herein, all of the equipment shall be packaged for shipment and storage in accordance with standard commercial practices for goods of the same type.

### 14. ATTORNEY FEES

If Court action is necessitated as a result of this agreement, the prevailing party shall have the right to collect reasonable attorney fees and costs incurred as a result of said court action.

### 15. ENTIRE AGREEMENT

The terms and conditions hereof constitute the entire contract between the parties. No modification, limitations, waiver or discharge of this contract or of any of its terms shall bind the Seller unless in writing and signed by the Seller's authorized representative. No modification, limitation, waiver or discharge of this contract shall effect the Buyer's liabilities to the Seller accrued prior thereto. Further, this agreement merges and supersedes all prior written and oral agreements and understandings between the parties.

Item	Quantity	Description	Unit Price	Price
1	1	26-0060-0250-02 IGM-EC System Includes: IGM-EC Audio Switcher, Complete 12 Audio Sources 12 Random Select Interface for Go-Cart 24's 2600 Event Memory VU Meters, Silence Sensor Program, Monitor and Sum Amplifiers EC Operating Software Operations and Technical Manuals RS422 Serial I/O for Computer (less computer, disk drive, monitor, and printer)	\$ 4,975.00	\$ 4,975.00
2	3	18-0042-0250-20 Go-Cart 24, Stereo Features: 24 tray, bi-directional drive, single play station, random access, or sequential operation	4,245.00	12,735.00
3	2	00-1409-6125-99 Model R-90 Rack, Black, rear door, AC strip, cable duct	575.00	1,150.00
4	1	00-1406-6125-94 Side Panels, Pair, for R-90 Racks	210.00	210.00
5	1	00-2000-0250-00 Uninterruptible Power Supply, battery included	495.00	495.00
6	1	00-2750-0115-00 BCL-155 Islatron	240.00	240.00
		TOTAL		\$19,805.00

**ORIGINAL**  
(Please Sign and Return to IGM Communications, Inc.)



4041 Home Road  
 Bellingham, Washington 98225  
 206 733 4567

NO. 3191

The undersigned, hereinafter called the Buyer, hereby offers to purchase from IGM Communications, Inc., hereinafter called the Seller, the items described in Exhibit "A", as attached hereto, for a purchase price and upon such terms as hereinafter provided. Shipment to be made, subject to prior sale, within 30-45 days of receipt of Seller's acceptance of this proposal. This proposal shall be firm for 30 days from the date of this proposal. A firm shipping date will be supplied to Buyer upon Seller's acceptance of this proposal.

**\*SHIP DATE DETERMINED BY DATE OF PROPOSAL ACCEPTANCE**

Terms and Conditions agreed to are printed on reverse side, including EXCLUSION OF WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE.

Terms: ~~A 5% discount will be applied if the full purchase price less the 5% discount is paid in advance at the time the order is received by IGM.~~  
**All orders must be accompanied by a 25% down payment, balance (75%) due before shipment.**

Kindly execute this proposal in the space provided below. If accepted by IGM Communications, Inc., this document shall be the final contract of sale.

DATED: May 25, 1988

BUYER:

<u>Barry Mishkind, CE</u> NAME	<u>KSXX</u> COMPANY	ACCEPTED: _____	DATE
<u>3222 South Richey Avenue</u> ADDRESS		BY _____	
<u>Tucson,</u> CITY	<u>AZ</u> STATE	<u>85713</u> ZIP	TITLE _____
		<u>(602) 296-3797</u> PHONE	

PRESENTED BY:

<u>Carl Peterson</u> NAME		ACCEPTED: _____	DATE
<u>282 W. Kellogg Road</u> ADDRESS		BY _____	
<u>Bellingham, WA</u>	<u>98226</u>	IGM Communications, Inc.	
		Bellingham, Washington 98225	
<u>(206) 733-4567</u> PHONE			

## TERMS AND CONDITIONS

If this proposal is accepted by IGM Communications, Inc., the following terms and conditions shall apply:

## 1. SALE

Seller hereby sells and conveys, and Buyer hereby purchases items as described in exhibit "A" attached hereto.

## 2. TITLE AND USE

Seller hereby warrants to the Buyer that the Seller is the lawful owner of the personal property hereby sold and conveyed under paragraph 1 hereof and that Seller has good and unencumbered title to such property with the full right to sell and convey the same. However, the Seller makes no representations or warranties as to the effectiveness or performance of such equipment other than that as may hereinafter be provided.

## 3. PURCHASE PRICE

Prices are based upon the printed price list issued by IGM Communications, Inc., effective at the time of order acceptance. However, prices are valid only 60 days after order acceptance, unless non-delivery during that period is caused by IGM or the delayed delivery is previously agreed upon by IGM. IGM reserves the right to adjust the prices due to governmental legislation which is beyond IGM's control.

Leases: Lease plans are available through leasing companies and if desired by Buyer and if agreed to by Seller, will be made as a separate part of this agreement.

## 4. DELIVERY, TITLE AND RISK OF LOSS

All sales will be made FOB, Seller's place of business in Bellingham, Washington. The Buyer will pay all costs of shipment and any payment by the Seller of freight or other charges shall be for the account of the Buyer and shall not extend the obligation of the Seller with respect to delivery. Risk of loss or damage shall pass to the Buyer on delivery to the carrier at Seller's plant, notwithstanding any provisions for payment of freight or insurance by Seller, or the form of the shipping documents. If the Buyer has any particular mode or routing of shipping, he shall so notify the Seller of full details.

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Buyer hereby grants to Seller a security interest in the equipment purchased hereunder as security for the performance by the Buyer of all obligations hereunder. Buyer agrees to protect and maintain the collateral by all reasonable means and cannot sell any part of the collateral or the interest of the Buyer except with a prior written consent of the Seller.

## 6. TAXES

All increases in, and all new taxes, excises, or other governmental charges hereafter imposed on the production, sale or transportation of the materials sold hereunder which Seller may be required to pay, shall become part of the price payable by the Buyer. Unless separately stated, all prices will be quoted, all orders accepted and all billings rendered exclusive of all federal, state and municipal taxes of any kind. Seller will not report, collect or pay any tax which may be imposed on the Buyer and the Buyer shall report and pay all taxes so imposed and shall hold the Seller harmless therefrom.

## 7. FORCE MAJEURE

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6	1	00-2750-0115-00 BCL-155 Islatron	240.00	240.00
		TOTAL		\$19,805.00

CUSTOMER COPY  
(Retained by Customer)

