

Model 104



Not all applications

jack, and an audible ringer (which may be disabled). The Model 108 permits up to six callers on air at one time. The callers hear each other and they hear the host. The callers may be switched to an alternate CUE buss for off-air communications. When callers are on hold, they may be "backfed" program audio or music on hold. The host may transfer an entire group of callers from air to hold or to cue with a single keystroke and bring them back to air again—with a single keystroke. A beep alerts the caller before he goes on-air. A caller may be transferred back to the call director or dropped from the line instantly.

require the capacity of the Model 108. The Symetrix 104 Interface is ideal for the smaller format broadcast stations, corporate user or educational institution. This unique microprocessor-based unit handles up to four incoming telephone lines at once. The 104 may be used in conjunction with a standard (user provided) touch-tone phone or in a "hands-free" mode. All lines may be seized, routed and released by buttons on the desk console. The control functions include seize, release, transfer to hold, transfer to cue, and transfer to air.

Up to four callers may be conferenced "on air" at one time. An output jack and gain control on the desk module provide caller monitoring via headphones. The desk module also contains an audible ringer which may be muted by a switch on the module. An additional switch on the desk module enables the "auto answer" mode in which incoming calls may be seized, routed to air, and released with single keystrokes for rapid polling of callers.

Specifications 104/108

		104	108
Telephone Line Connections	standard loop start, dial-up telephone lines	4	8
Transmit Audio Input	electronically balanced differential input switchable between mic and line levels line input impedance: > 10K ohms mic input impedance: > 600 ohms	1	1
Audio On Hold Input	electronically balanced differential. Accepts nominal input levels from -10dBm to +8dBm. input impedance: 46.3K ohms	1	1
Receive (caller) Outputs	electronically balanced differential output impedance: < 100 ohms nominal output level: +4dBm	2	3
System Frequency Response	300 Hz to 3k Hz, nominal		
Telephone Connectors	RJ-11 (modular)		
Audio I/O Connectors	#4 barrier terminals		
Dimensions, controller	19" x 5.25" x 10.75"		
Dimensions, desk console	8" x 10" x 3.5"		
Shipping weight	36 lbs		
Power requirements	Factory prewired for nominal 120VAC/60Hz. 220-240VAC/50Hz or 100VAC/60Hz available upon request.		
User Adjustable Controls	transmit level, audio on hold level, caller return level, coarse hybrid null, HF hybrid null, caller override level, caller monitor gain		
Console to Controller Cable	25 feet, 25 pair cable, prewired with connectors		

In the interest of continuing product development, prices and specifications of Symetrix products are subject to change without prior notice.

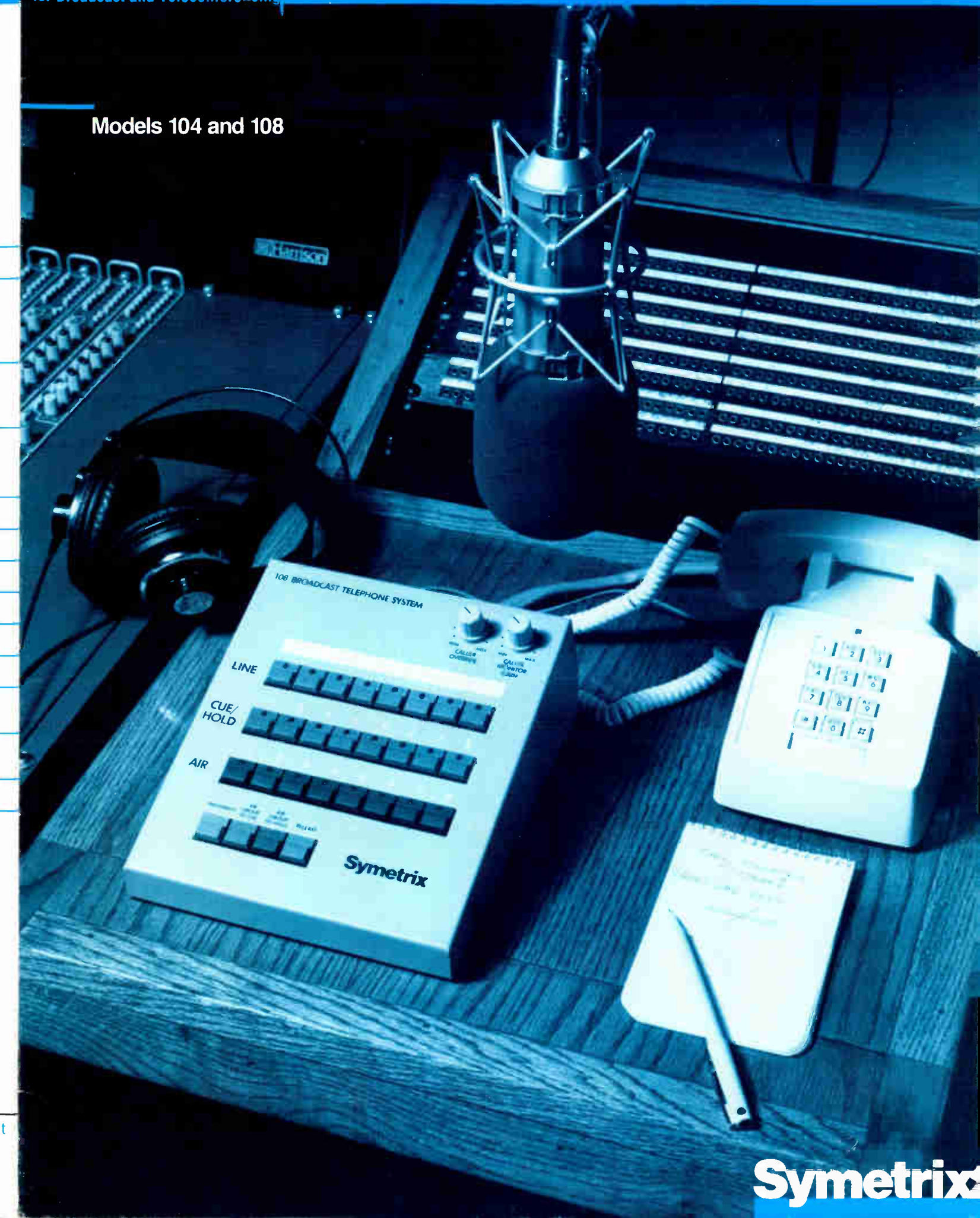
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Signal processing at its best

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Models 104 and 108



Symetrix

Model 108



Symetrix just made it easier for your listeners to talk back to you.

No matter what you do.

Radio talk shows, TV, commercial or non-commercial broadcast, legal or corporate teleconferencing, even video classrooms. Any job that calls for listener involvement means telephones.

And as most broadcast engineers will tell you, telephones and audio consoles don't usually mix. At least they didn't until now. Symetrix has introduced two new products designed especially for today's broadcast and teleconferencing market. The Model 104 Multi-Line Interface and Model 108 Broadcast Telephone System can connect your audio console directly to incoming

phone lines without going through an outdated and expensive KSU.

These are not add-ons or adaptations of existing telephone equipment. Instead, the 104 and 108 are fully stand-alone systems. Each has been designed to bridge the gap between bi-directional telephone lines and uni-directional audio mixing consoles.

The Symetrix 108

Interface is the perfect choice for medium to large broadcast stations. This unique telephone system uses a microprocessor to handle up to eight incoming telephone lines at once.

The system is simple enough to be controlled by the on-air personality from one console. Or, with an optional second desk controller, a second person can act as "call director." The call director uses a standard (user provided) desk telephone to answer incoming calls and "pass" them to the host.

The desk consoles allow lines to be seized, routed and released. Control functions for each incoming line include seize, release, transfer to hold, transfer to cue, and transfer to air. The Model 108 desk console also contains a caller monitor gain control, a caller override control, a caller monitor headphone output

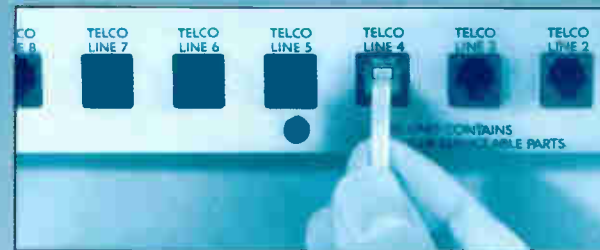
Keep the FCC happy

Some things are better left unsaid—according to the FCC. That's why the 108 has a "profanity button" right on the desk console. One touch momentarily mutes all callers and at the same time triggers an external broadcast delay (if available) to "dump" the call.

Easy to hook up

Installing a Symetrix 104 or 108 is almost as easy as plugging in a home phone. Just snap in standard RJ-11 modular plugs. Connect the audio inputs and outputs to your console, balance the hybrids, and you're done. No need for expensive additional telephone equipment. No odd-ball "A" leads, KSU's or strange connectors. And no waiting weeks for a costly telephone installer.

Both the 104 and 108 are FCC approved for direct connection to incoming telephone lines (certified under Part 68 and Part 15 regulations of the Federal Communications Commission).



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Microprocessor Controlled

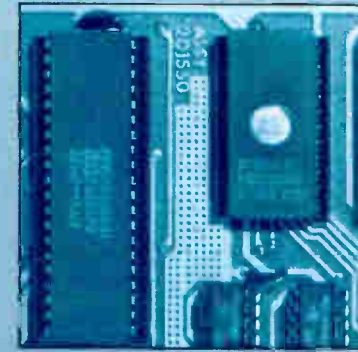
The Symetrix 104 and 108 are built to be used in the real world. By inexperienced operators. Under less than ideal conditions. And with less time than needed to do the job right. In short, the Symetrix 104 and 108 are built so they're virtually foolproof to operate.

Symetrix gave "Human Engineering" top priority when designing the 104 and 108. For example, one primary goal was to reduce complex call routing to a few simple keystrokes. This was accomplished by using a powerful microprocessor. Keystroke sequences are kept short, logical, and wherever possible, modeled after traditional business telephone systems.

The same microprocessor automatically makes the oldest call blink the fastest. So you can tell who's who at a glance. And if a caller hangs up, the microprocessor senses it and clears that line automatically. So you won't get dial tone on air.

The Command Console

Desk space is usually at a premium. So Symetrix kept things small, while still giving you the control you need.



A powerful microprocessor is the heart of the 104/108.

Both the 104 and 108 systems are operated from small (8 x 10 inch) desk consoles. Each console contains command keys, a headphone output jack, a connector for a standard desk telephone (which can also be used to dial out), a ringer on/off switch and more.

The desk console connects to the rack mounted system controller via standard 25 pair telephone cable. Twenty-five feet of cable (prewired with connectors) is supplied with the system. Users may extend cable to 300 feet.

The System Controller can be safely locked away in the engineer's room. One 5 1/4" rack mount unit contains all telephone inputs, all audio inputs and outputs, and all digital and analog control circuitry.

Built-in hybrids

The Symetrix 104 and 108 are both equipped with electronic hybrids (2 to 4 wire converters) which provide full duplex (2 way) conversation between host and callers. The 108 is supplied with 3 hybrids. The 104 has 2 hybrids. When it is desired that the host have priority in the conversation, the "caller override" control (located on the desk console) may be used to incrementally adjust the hybrid between full duplex and half-duplex. Half-duplex also provides minimum host signal in the receive (caller) audio and is especially useful in situations where the caller is returned to a studio loudspeaker system.

If you prefer, you can also bypass the internal hybrids. A connector on the back of the control console allows you to hook up your own external telephone hybrid.

Built-in AGC

In conjunction with the hybrid, a sophisticated AGC (Automatic Gain Control) assures that each caller comes through loud and clear. This is especially important when local and long distance callers are conferenced. With Symetrix's unique multiple hybrids, you get dependable, repeatable results. In the absence of a phone line connection, the AGC automatically mutes to eliminate noise.

Designed in America, Built in America

Yes, the Symetrix 104 and 108 are designed and built in America. And that's important. It means that if you ever have a problem, you can call up on the phone and talk to a real live person—who actually knows how the product was designed.

Although you probably won't ever need us, we are available and we do support our products. We just thought you'd like to know

