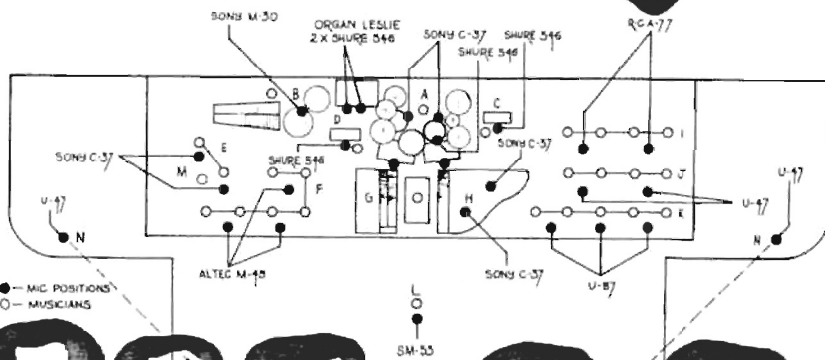
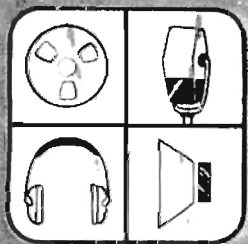


# RECORDING engineer/producer

*relating recording science • to recording art • to recording equipment*



in this issue: **WALLY HEIDER**  
recording **SAMMY DAVIS Jr.** Live ...

... **QUADRAPHONICS SEPT '70**  
—Studio Design; Mercury in  
New York, Nashville, San Francisco

—A Quadraphonic Microphone  
Development

... **RECORDING TECHNIQUES 'phasing'**

10:30 PM . . . the 'NOW GROVE'

. . . the comedy team has slipped back behind the curtain . . . the room is hushed . . . expectant. . . apprehensively darkened . . . unaware that tonight's performance is to be, too, a live taping of material for Sammy Davis' new Motown album . . . SAMMY DAVIS JR LIVE AT THE GROVE.

# WALLY HEIDER RECORDING SAMMY DAVIS, JR. LIVE at the "NOW GROVE"



*by Chris Huston*

Heider

Huston

Connected umbilically to the GROVE by some 400 yards of audio and coax cable, in a strangely unmarked, workman-like panel truck, a big man, in reputation for this sort of thing, as well as in physique, WALLY HEIDER easily swivels left, then right from his position full in front of the complete 16-track console, 'punching-in' both 16-track recorders.

For the next hour and thirty minutes, as the two-inch 3M 206 tape winds, Wally operates in his acknowledged specialty: CAPTURING THE LIVE PERFORMANCE.

At odd times during that day, as time occurred during the set-up, we talked with WALLY HEIDER about Remote Recording, and particularly how he intended to work this date. "This job started," said he, "last night, (the opening night of Sam's four-day engagement), when we saw the show completely and began to work out the basic planning and strategy. We got a pretty good idea of the things Sam wanted to record; sound levels, and how the band was used."

The best 'Remotes,' we were to learn, happened when the performers were as nearly unaware of the recording process as that is possible. We watched as Wally and his set-up crew took every possible precaution so that Sammy and the 23-piece George Rhodes band, on the

30' x 12' stage would in no way be impeded. The essence of Wally's secret, if it is a secret, is that the twenty-seven (27) mikes, many boxes, and yards and yards of cable in no way detracted from the flow of the performance.

Earlier on the day of the 'taping,' Wally prepared a sketch of the stage, as well as the instrument placement of the band, and the house Public Address systems. An inventory of the mikes he wanted to use followed. The set-up crew working from these plans wired the stage and hung the mikes accordingly.

## **RHYTHM SECTION MIKING**

Although no special problems occurred, a good bit of time was spent at the heart of the band, the very tightly-grouped rhythm section at the center of the stand. So that the drums were not obscured, the piano lid had been completely removed. The decision, thus, was to 'close-mike' the piano, top and bottom, with two Sony C-37's multed together before they reached the console input. Normally, Wally would have preferred to mike the piano with a single mike a couple of feet above and away from the piano, to effect a better blend of highs and lows. A second alternative, if a woody, funky sound was desired,

continued/

HEIDER/DAVIS

would have been to place a mike directly into one of the sound holes.

Having heard the repertoire the night before, Wally decided to go with the 'above and below' close-miking which, as it happened, gave remarkable tone. Separation was distinct even from the double bass drums located directly behind the piano.

Wally preferred to mike the drums very much the same as they would have been, had they been recorded in a studio. He used two Sony C-37's over head. The snare was close-miked with a Shure 546, as well as two more 546's close-miked on the bass drums.

Still in the rhythm section, the bass amp was close-miked with a Shure 546 muled with a 'direct- box' on the electric bass. The guitar amp, likewise, made use of the highly directional qualities of the 546.

The Leslie tone cabinet, directly to the drummer's right, was miked, too, using the Shure 546 on both top and bottom, muled into one input.

Suspended above the total percussion section was an overhead Sony C-37 for blend.

### STRING SECTION MIKING

Especially in the Big' Band context, miking the strings is always critical. While strings easily hold their own during soft or moderate passages, they tend to lose their identity or are completely drowned out in passages which feature brass and woodwinds. This is so even when the sections are on opposite sides of the stage.

Wally's decision was to mike the strings with Altec M-49's. Characteristically the M-49's have good ability to capture brilliance and lend themselves to "Riding" which Wally planned for the heavy parts.

The complement of-mikes used on the section was three M-49's muled into one input on the six strings. Two Sony C-37's close-miked the two celli.

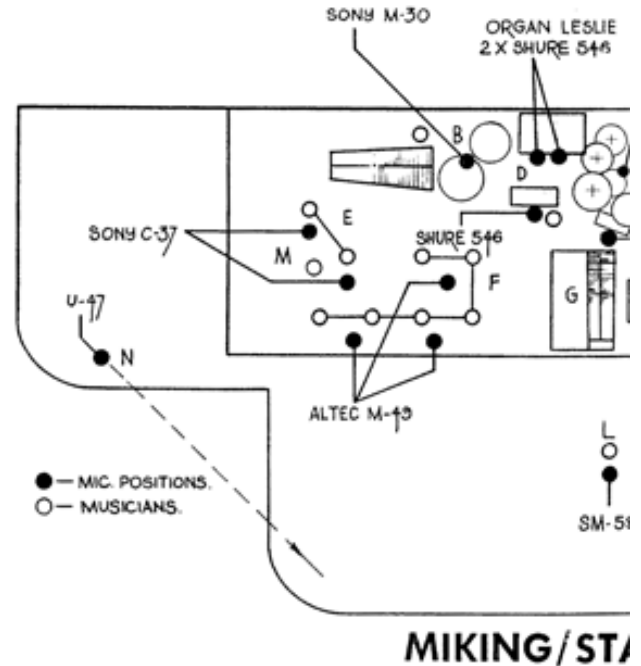
### BRASS AND WOODWIND MIKING

The horns and woodwinds were seated in three tiers; the five saxaphones down front, the four trombones behind and above, with the trumpets on the third tier.

As he related, Wally is very high on the U-87 as one of the finest all-around condenser microphones. He used three U-87's to really absorb the tone and blend of the woodwinds. Two U-47's easily handled the dynamic range of the strong four-piece trombone section. RCA 77's, two of them, captured the four trumpets to complete the miking of the band stand's left side.

### VOCALIST AND AUDIENCE MIKING

As has probably long been known, Sammy Davis possesses a 'golden' Shure SM 58, which he regularly uses for appearances. Wally had planned for Sam to use



a standard SM-53 with a newly-developed, larger 'pop-filter.' The Artist, however, was reluctant to switch without some rehearsal with the new mike resulting in the decision to go with the golden '58 for the performance that night, and to switch to the '53 with the enlarged pop-filter for the following night after some rehearsal with it.

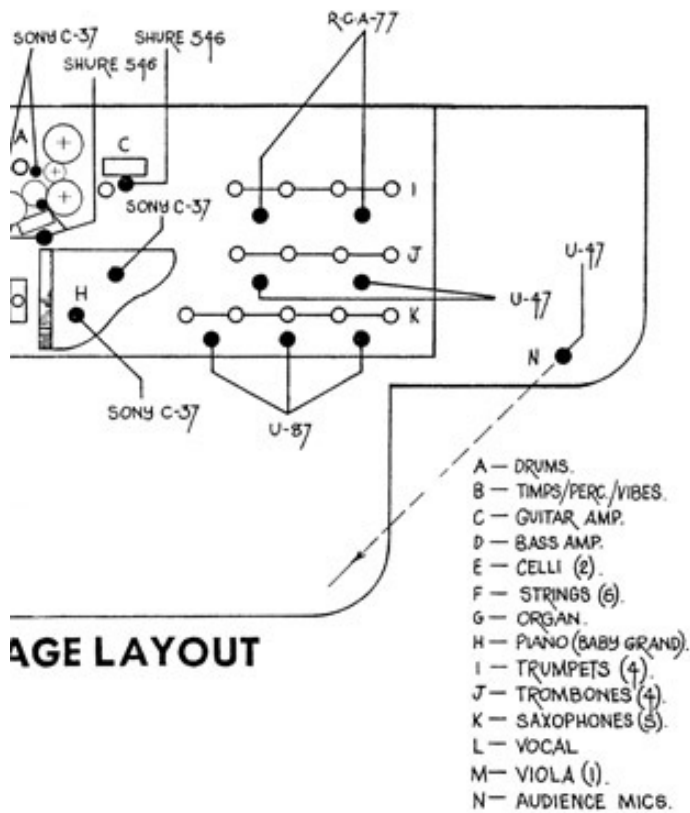
The audience mikes used were U-47's because of their broad, flat response curves. They were placed at each side of the stage facing in, at an angle, toward the center of the room.

### RECORDING

'Levels' were pretty much set during the two dance sets prior to show-time. The only unforeseen problem encountered was an A/C signal on a couple of the mikes attributable to the stage lights. This was easily taken care of.

Davis' show opened with "Spinning Wheel." The tune with its rich horn parts, solid rhythm, and good volume, was a good one with which to finally measure and establish settings and balance for peaks.

With everything running smoothly, and all instrument channels balanced, Heider was free to devote most of his attention to the 'tracking' of the vocal. He did not, at this point, elect to use a Limiter. His feeling was that if he used a Limiter, it would have allowed a good bit of the band sound to get on to the vocal track over the limited signal.



## AGE LAYOUT

By keeping the vocal level up, really watching for peaks, limiting later in the mix-down would provide all the control needed.

If he had had a track to spare, Wally might have used an alternative method he likes very much for doing vocal remotes without using Limiters. This involves paralleling the vocal signal into two channels at once. One of the channels is set-back, perhaps, 3-5 dB from '0.' In his words, "it provides a safety in the event of sudden peaks and eliminates the need for limiting, while accomplishing the same objective."

## RECORDING TRACK LAYOUT

1	Sammy Davis Vocal	9	Right Trombones
2	Violins	10	Piano
3	Celli & Viola	11	Guitar
4	Left Reeds	12	Drums
5	Right Reeds	13	Drums
6	Left Trumpets	14	Percussion
7	Right Trumpets	15	Left Audience
8	Left Trombones	16	Right Audience

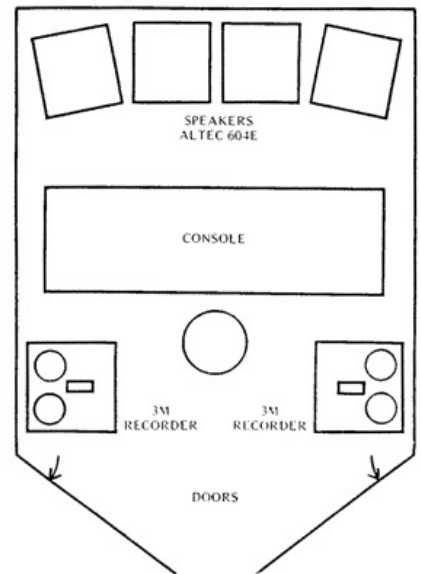
## THE TRUCK

As diagrammed, the remote facility Wally has been using is built around the shell of an ALTEC console with Universal Audio equalizer and pre-amp. The eight busses are supplemented by eight auxiliary busses which are in reality the echo busses. Each of the 16 channels has its own mute control for easy monitoring.

The first sixteen (16) input positions are switch-able to any of the first eight busses. Positions 17-24 are permanently wired into the eight auxiliary busses.

The monitor system consists of four (4) ALTEC 604 E's in narrow cabinets.

The monitor system is powered by MC 275 power amps. An essential part of his monitoring system is the closed circuit TV monitor located just to the left of the console.



As this issue of Re/p goes to press, let's call it "WALLY ON WHEELS 'II'" is about to be christened. The new enlarged remote facility will be reported on in the next issue.

END

### About the author:

With this, his first article, Chris Huston adds the title 'Author' to the many others which describe his current occupations as well as former activities: producer, engineer, mixer, session-man, studio-owner/ manager, graphic artist, etc., etc.

Re/p is delighted to publish this story by Chris at about the same time that he is receiving more recognition for inking just engineered the Eric Burdon/War -I single "SPILL THE WINE". . . as well as the album.

A Huston produced/engineered group "SWEETWATER" releases an album on Warner's in October.

-ed